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# The Washington Innovation Economy

## *Strategize, Organize and Operationize*

*April 28, 2009*

**Egils Milbergs**  
**Washington Economic Development Commission**

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# Ten Year Vision

Make Washington State the most attractive, creative and fertile investment environment for innovation in the world as a means of achieving long term global competitiveness prosperity and economic opportunity for all the state's citizens.



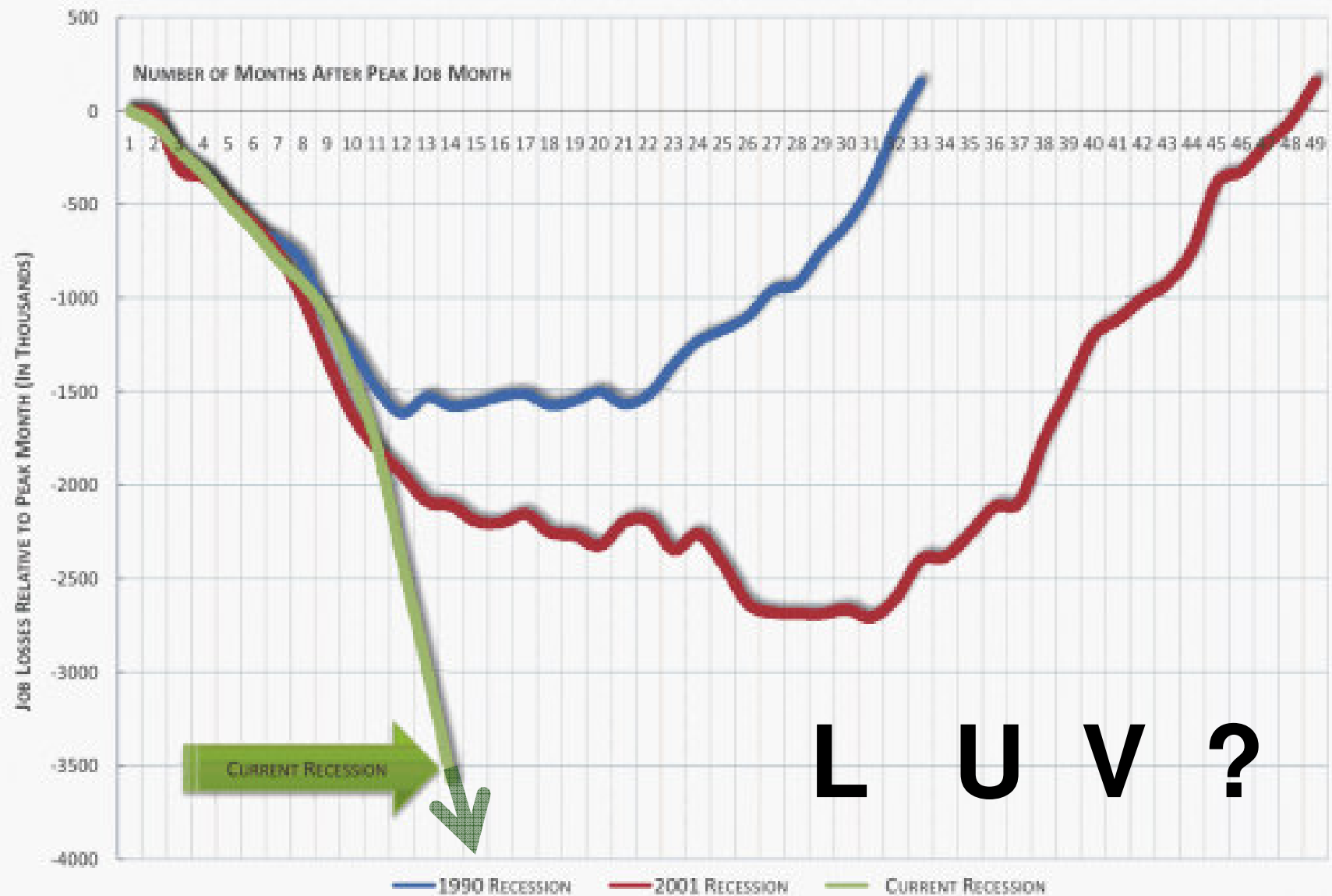
*...with change occurring at mind-boggling speed, we can't rest on our laurels, so let's commit today to grooming a workforce and leaders who are agile, creative, and embrace innovation.*

*Gov. Chris Gregoire  
March 10, 2009*

***We must look over the horizon and prepare for the new economy that will emerge when this recession passes. Simply put, we must rebuild, re-tool and re-invent our national strategies for sustained economic success.***

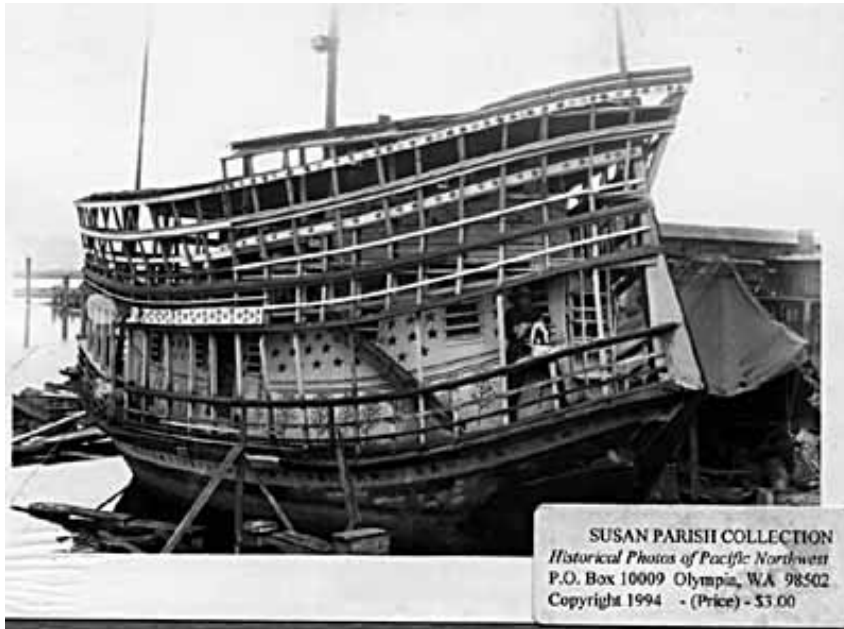
***Commerce Secretary Gary Locke  
Former Gov. Washington State  
March 18, 2009***

# JOB LOSSES IN RECENT RECESSIONS



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# Noah's Ark

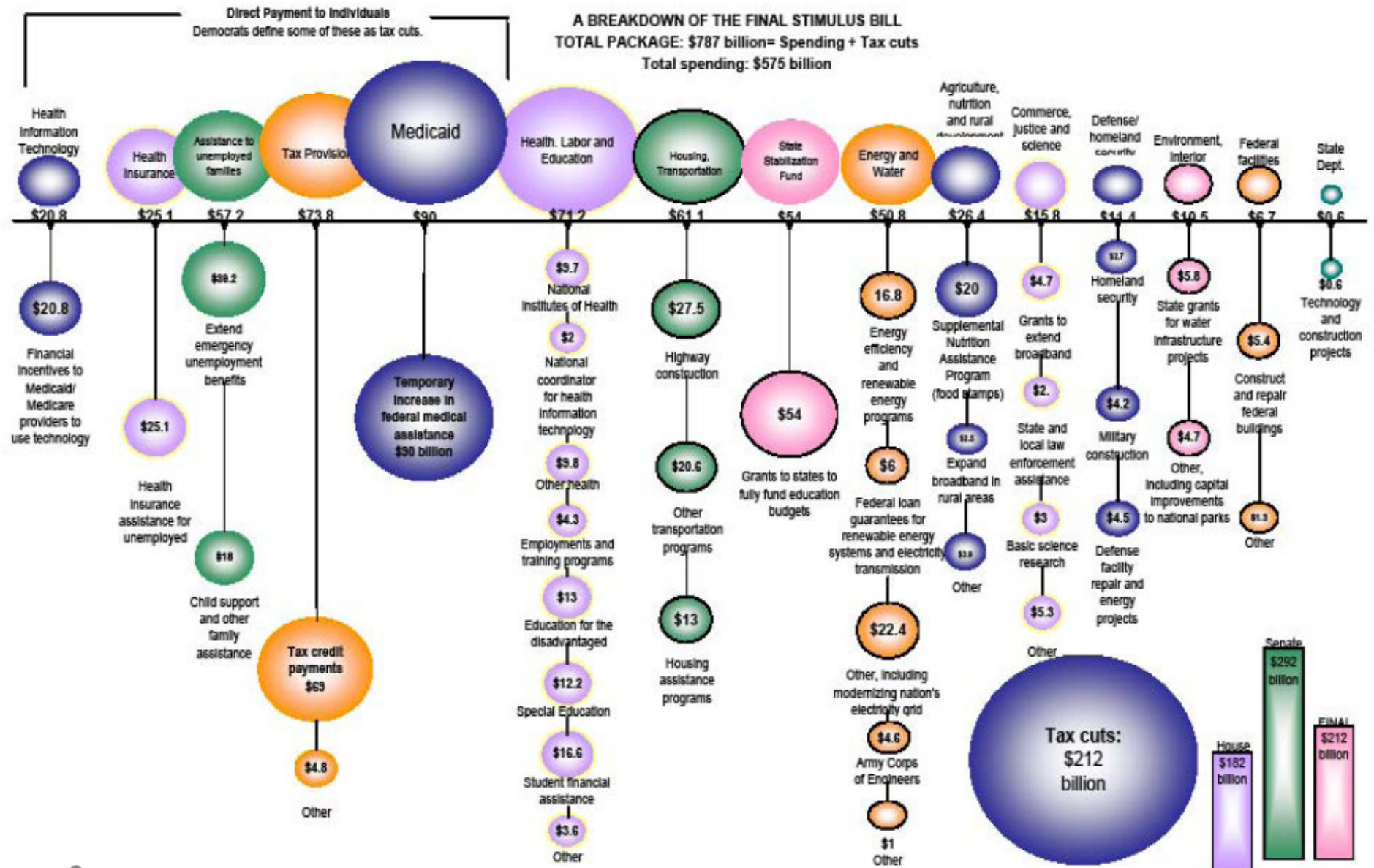


Olympia WA, 1929



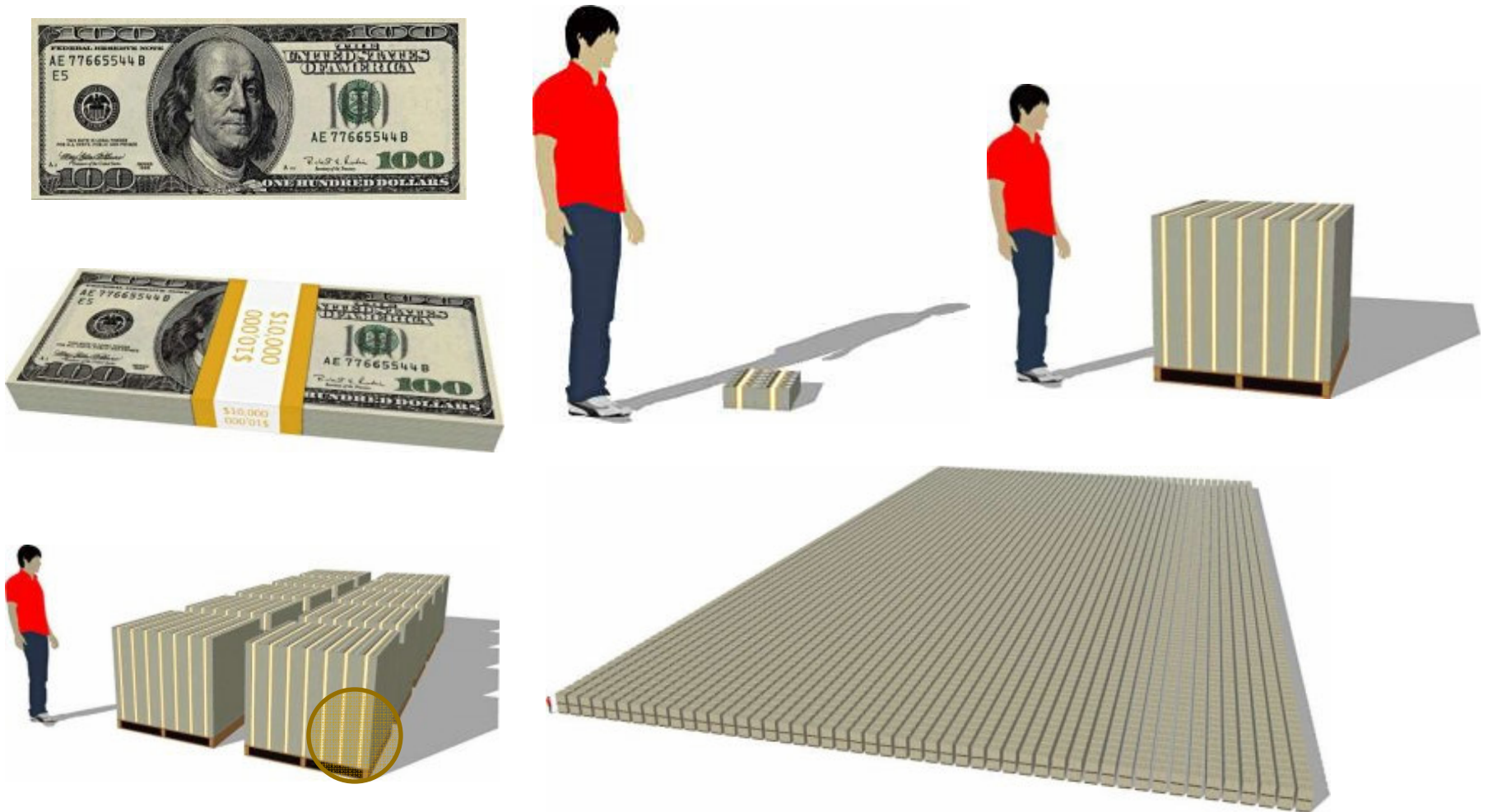
Schagen Holland, 2007

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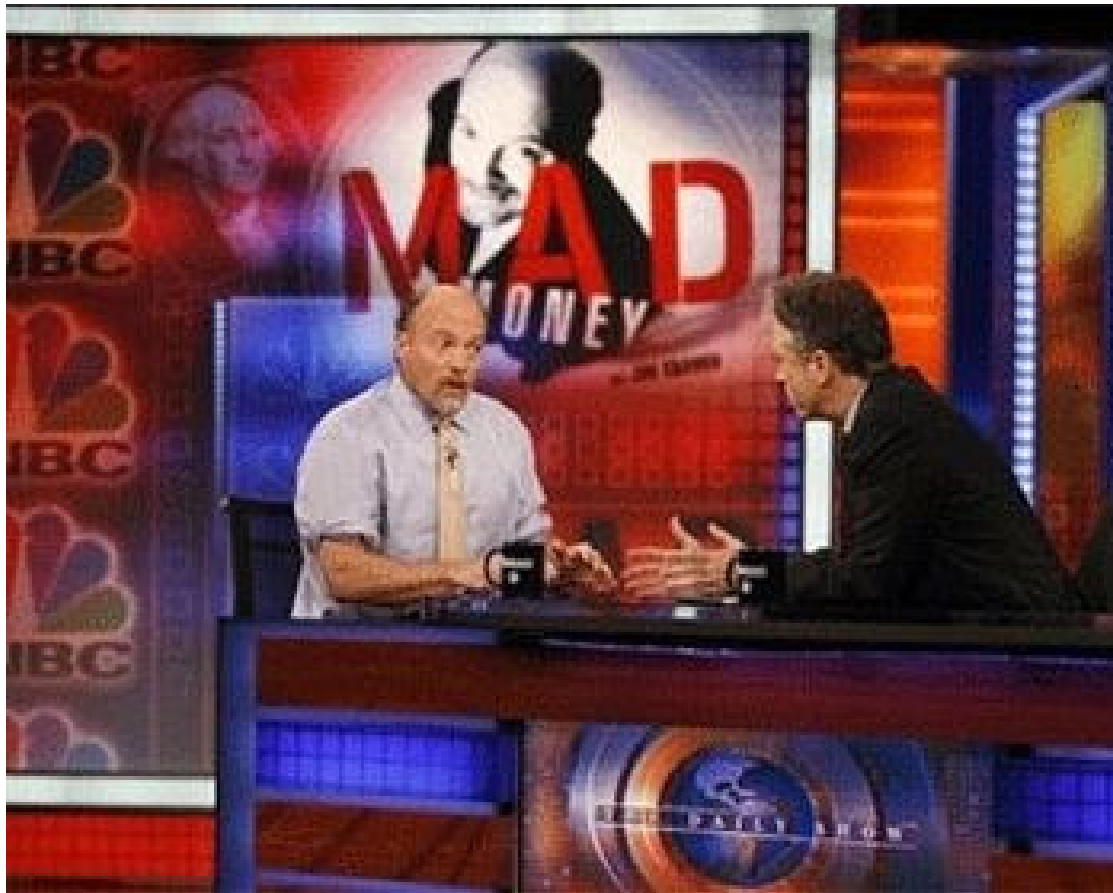


# *What does a trillion dollars look like?*



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Who will ensure accountability?

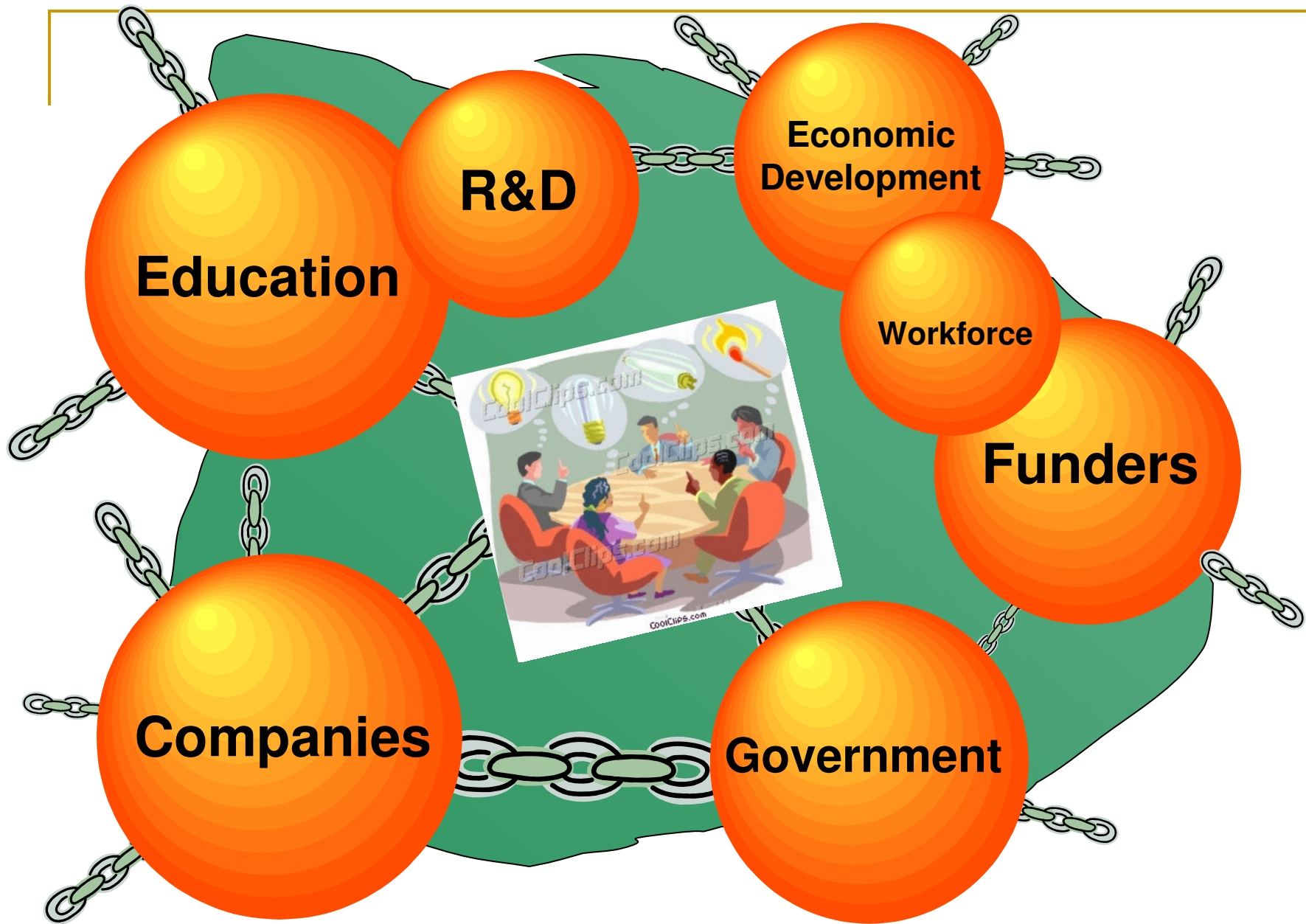


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# Regional Innovation Forums

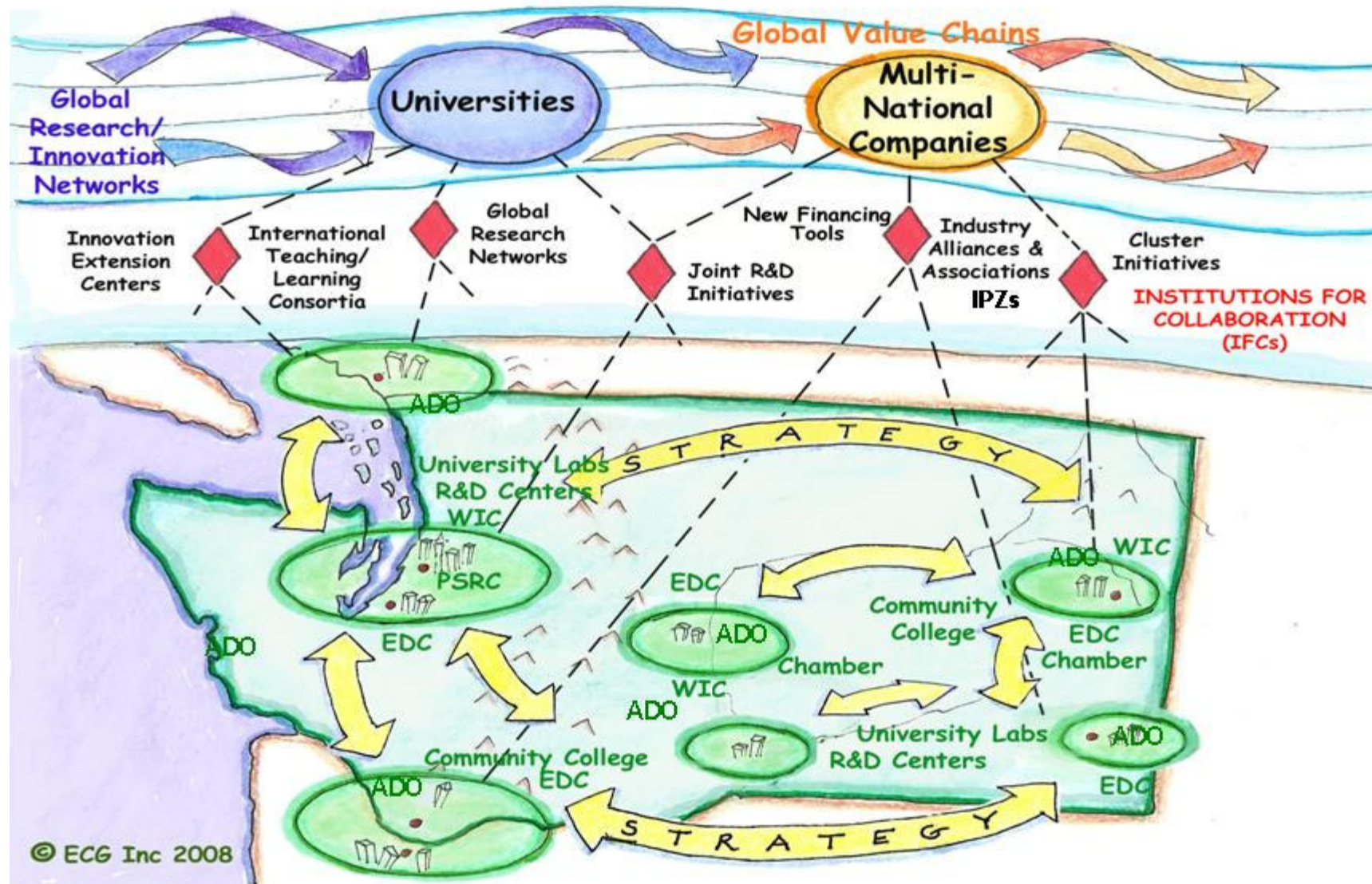
- What is your regional economic and innovation vision in next 10 years?
  - What are the critical high impact projects?  
How to leverage federal stimulus?
  - What relationships can accelerate implementation?
  - How do we measure success?
-





# Innovation Ecosystem

# Deepening Relationships in Washington's *Innovation Ecosystem*





### ***Talent***

- Supply of middle skills
- S&E attainment
- Verbal, math, science proficiency

- Educational attainment
- R&D personnel
- Life long learning

### ***Investment***

#### **Entrepreneurship**

- University R&D
- Private R&D intensity
- Intellectual property generated
- Company startup

#### **Investment**

- Equity investment
- Federal investment
- Foreign capital attracted

### ***Infrastructure***

#### **Transport**

- Freight
- Information delivery
- Commuting

#### **Business Climate**

- Cost of business
- Business attractiveness

### ***Competitive Companies***

- New products/services
- Productivity growth
- Export growth
- Market share
- High impact firms
- Profitability
- More investment

### ***Increased, Better Employment***

- Income growth
- Employment
- Reduced income disparity

### ***Wealth Generated***

- GDP by state
- Standard of living

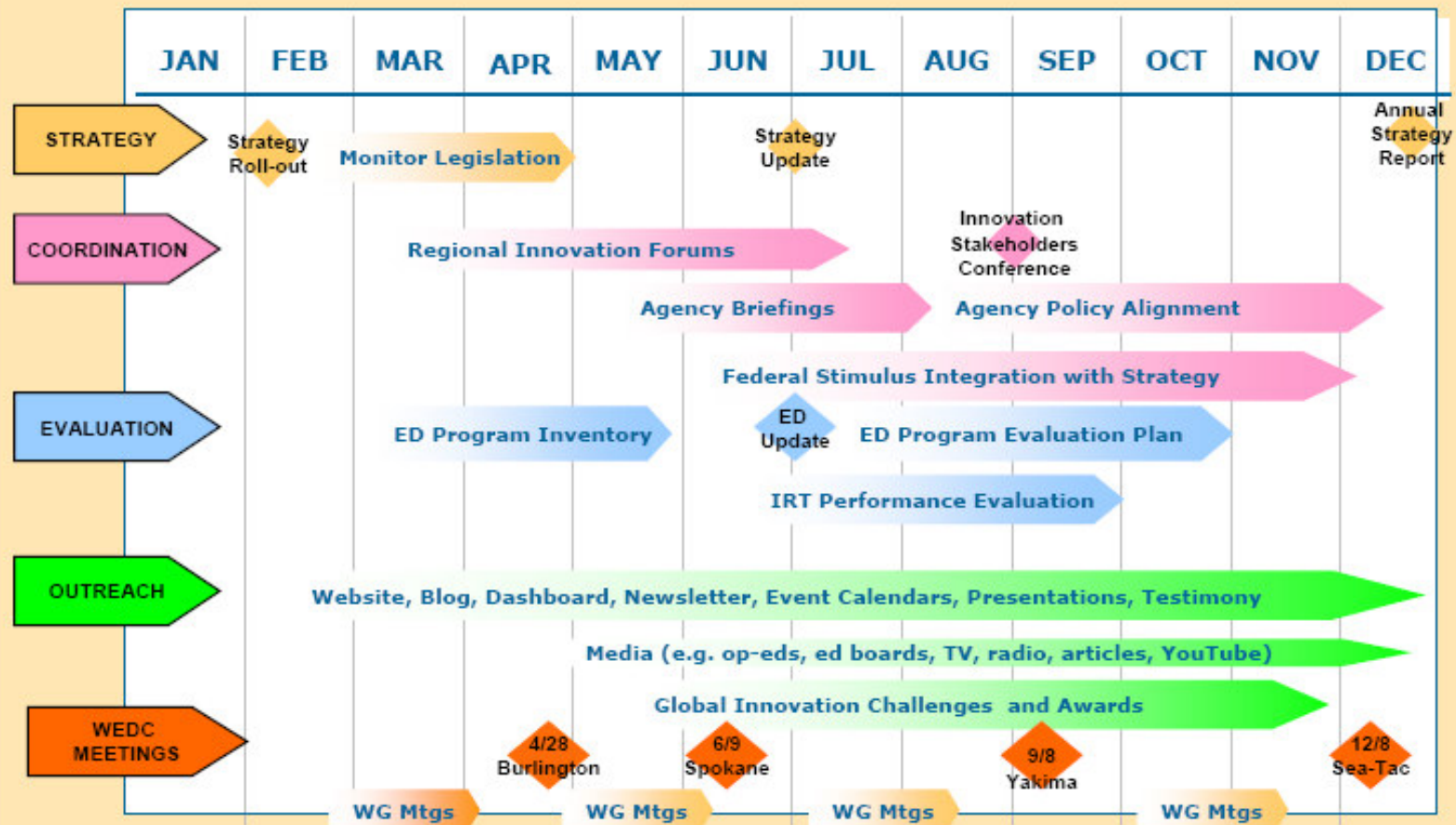
### ***Increased State Revenue***

- Aligned policy & investment
- State revenue generated

## **Success Metrics for the Innovation Economy**

Source: WEDC and Washington Technology Center

# WEDC Timeline 2009 v.1.0





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**The best way to predict the future  
is to invent it.**

— Alan Kay

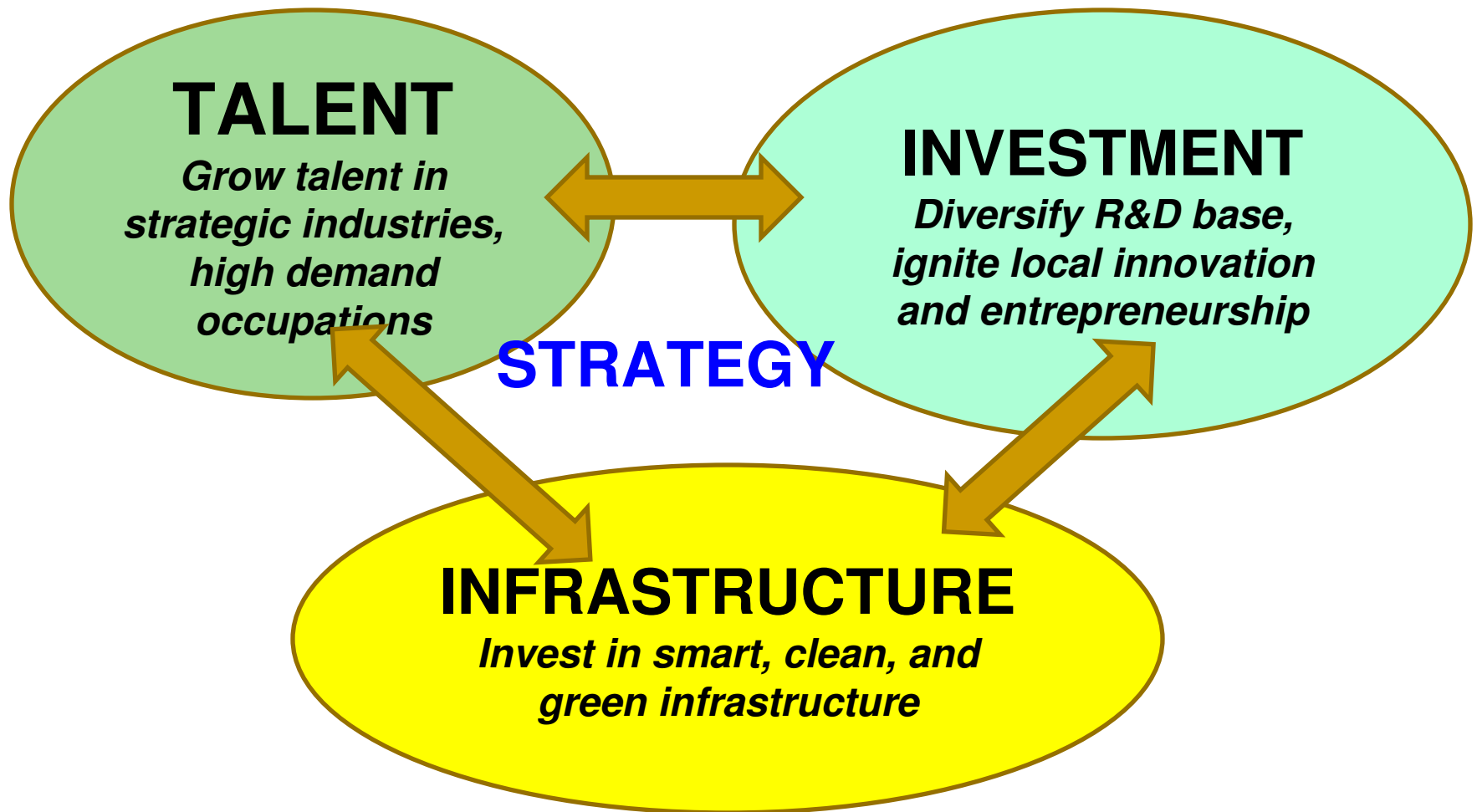
# New Model for Economic Development

Traditional Model	Innovation Driven Model
Attracting companies	Investing in talent and infrastructure
Jobs	Quality of jobs, per capita incomes
Lowest cost of business inputs	Higher value inputs, increasing
Focus on skills and single occupation	Focus on learning and career flexibility
Large corporations, economies of	Entrepreneurs, agile businesses, free
Top down economic development	Bottom-up partnerships and organic
Investing in technology inputs--Linear	Investing in innovation outcome--
Competing regions: zero sum game	Collaborating regions: value creation game
Closed innovation system	Open innovation systems, networks
Locally focused clusters	Globally focused clusters

**Washington Economic Development  
Commission**

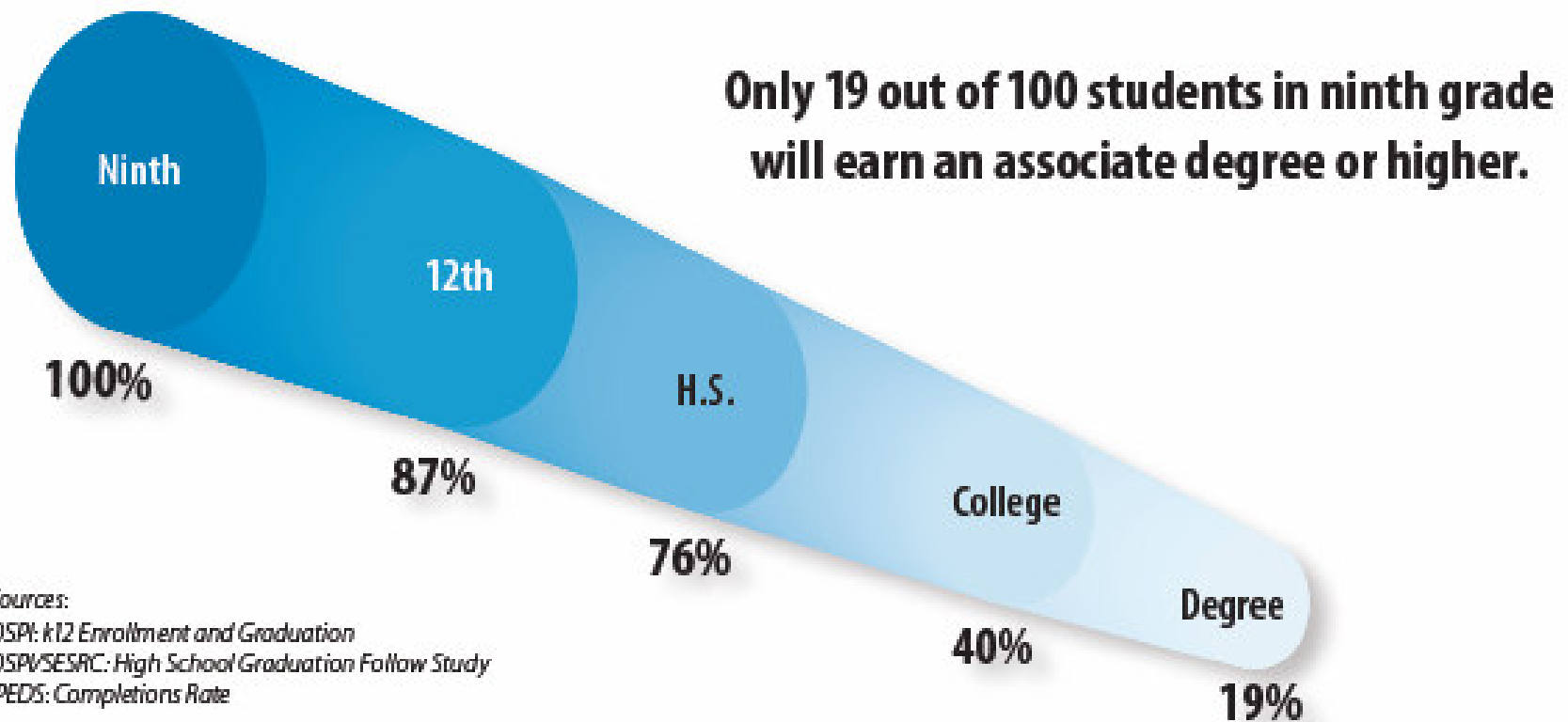


# Innovation Pillars

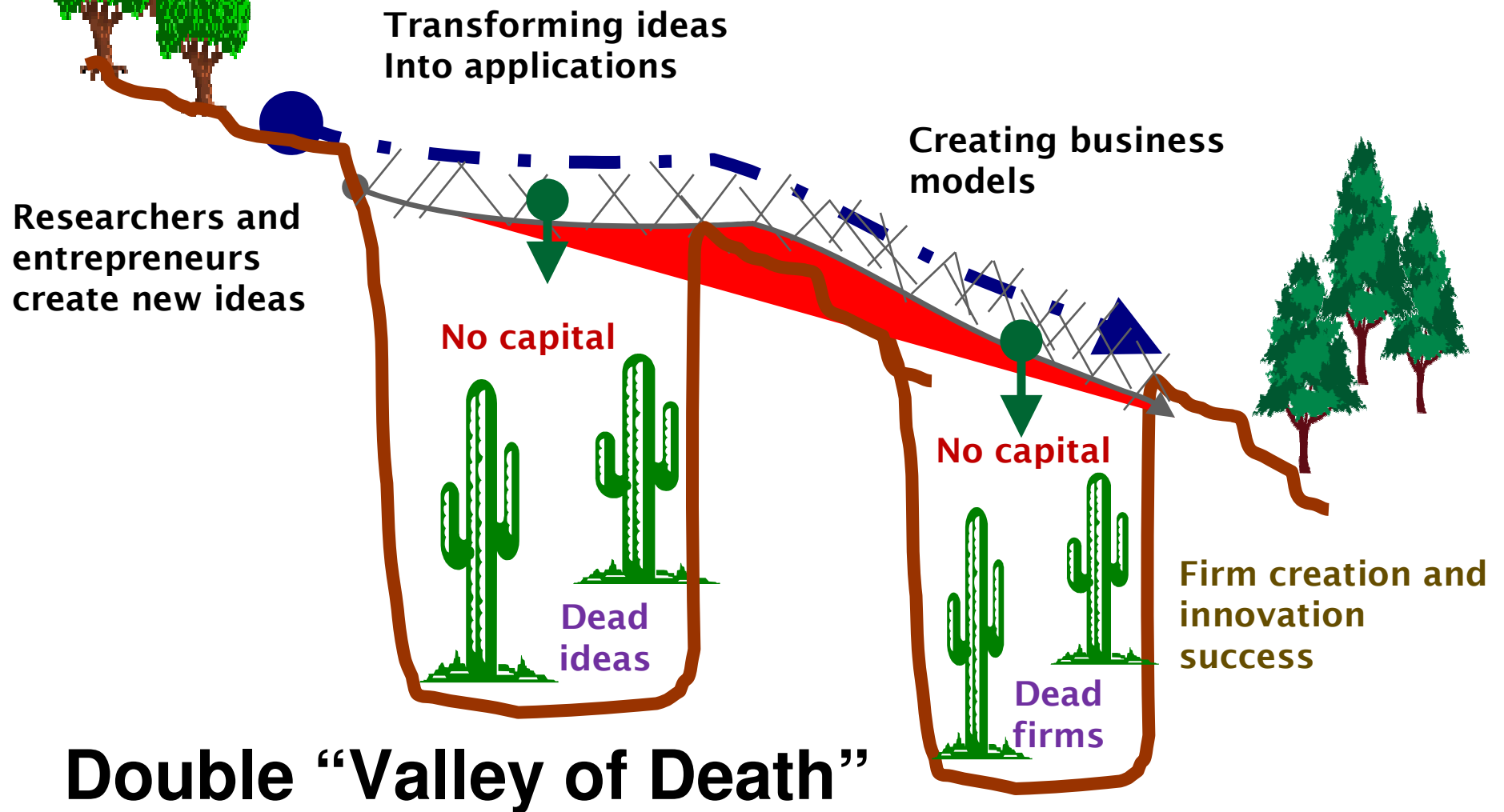


# Talent Challenge

How did we fall behind?



# Investment Challenge



Egils Milbergs

Graphic concept adapted from  
Dr. Charles Wessner, National Academies

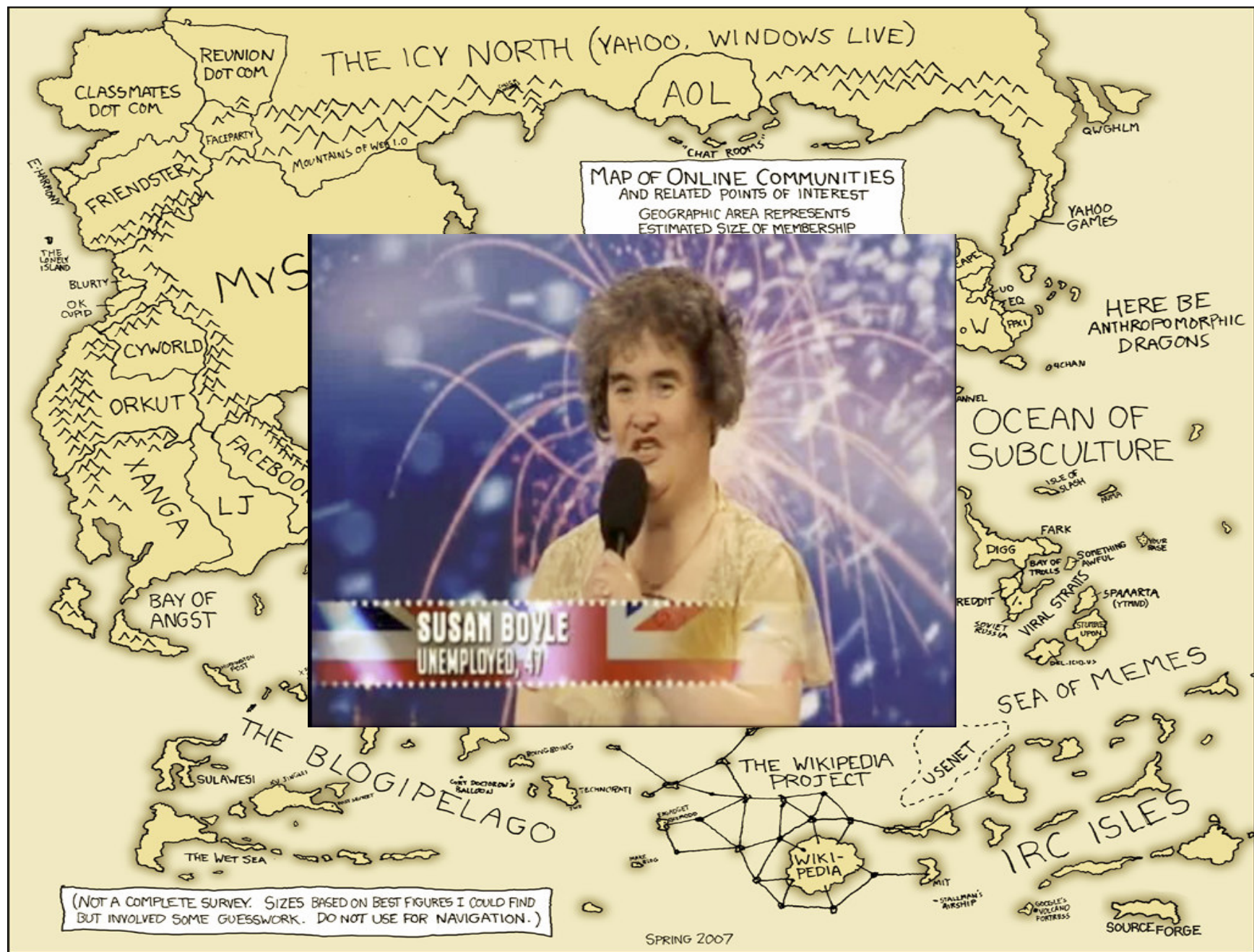
# Infrastructure Challenge

## *Beyond Oil?*



## Post “ICE” Age? Internal Combustion Engine





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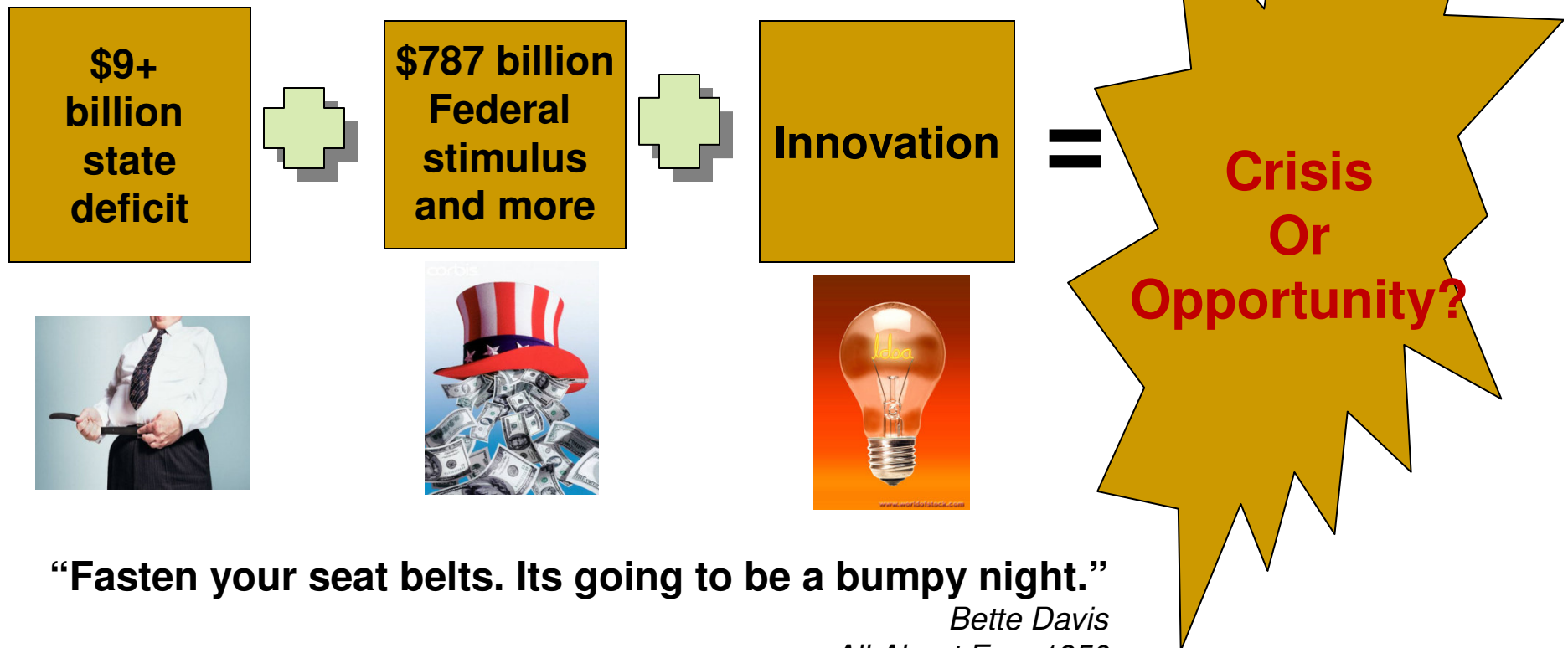
## Shifting of Competitive Advantage

- 1960s & 1970s                      *Advantage is Cost*  
Strategy is “Making it cheaper”
  - 1980s & 1990s                      *Advantage is Quality*  
Strategy is “Making it better”
  - 2000s                                      *Advantage is Innovation*  
Strategy is “Making something new”
-



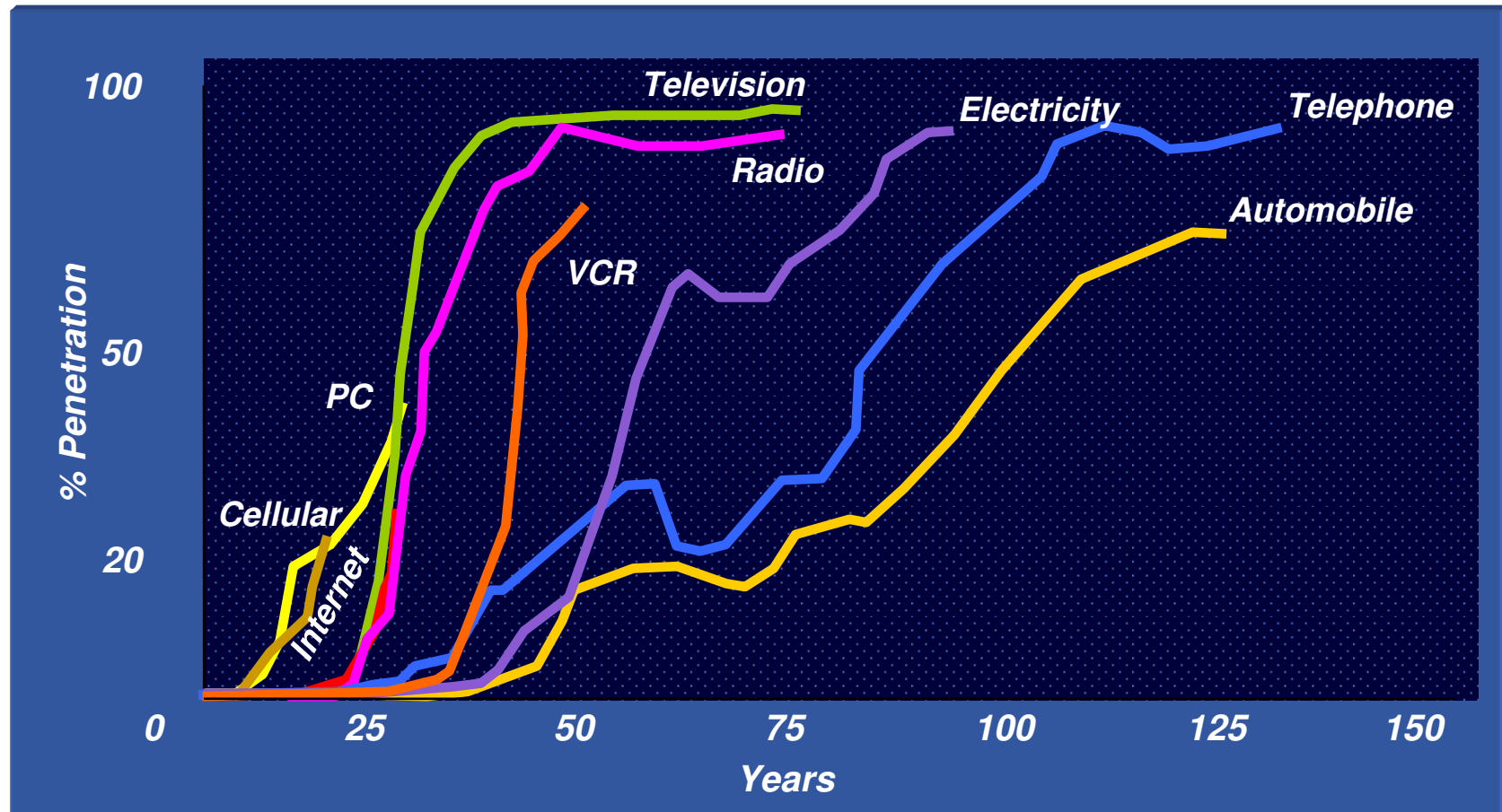
# Context

"never allow a **crisis** to go to **waste**,"  
*Rahm Emanuel*



"Fasten your seat belts. Its going to be a bumpy night."  
*Bette Davis*  
*All About Eve, 1950*

# *The Pace of Innovation — Accelerating*



# 2008 New Economy Index

Overall Rank (2)	Knowledge Jobs (7)	Globaliza- tion (3)	Economic Dynamism (18)	Digital Economy (7)	Innovation Capacity (2)
MA	MA	DE	UT	MA	MA
WA	CT	TX	MA	NV	WA
MD	VA	WA	CO	NJ	CA
DE	MD	NJ	GA	RI	NM
NJ	NY	SC	NY	VA	MD

“States that foster risk-taking and treat this time as an opportunity will be in a better position when they emerge - they'll be growing, instead of replacing the investments they slashed.” *Rob Atkinson, ITIF*

## Overall Score

Rank	Country	Overall Score 2009
1	Singapore	73.4
2	Sweden	71.0
3	Luxembourg	66.2
4	Denmark	64.5
5	S. Korea	64.2
6	U.S.	63.9
7	Finland	59.6
8	UK	59.2
9	Japan	59.0
10	NAFTA*	58.6
11	Netherlands	58.4
12	France	57.3
13	Ireland	56.4
14	Belgium	56.3
15	Germany	55.0
16	Canada	54.4
17	Austria	52.6
18	EU-15**	52.5
19	Australia	51.5
20	EU-25**	50.6
21	Czech Republic	47.9
22	Estonia	46.1
23	Spain	43.7
24	Hungary	42.5
25	Lithuania	40.8
26	Italy	40.2
27	Portugal	38.7
28	Slovenia	37.6
29	Slovakia	37.0
30	EU-10**	36.9
31	Latvia	36.5
32	Malta	36.2
33	China	36.0
34	Poland	35.4
35	Russia	35.1
36	Cyprus	33.2
37	Greece	31.5
38	Brazil	30.1
39	Mexico	26.0
40	India	21.6
	<b>Average</b>	<b>36.5</b>

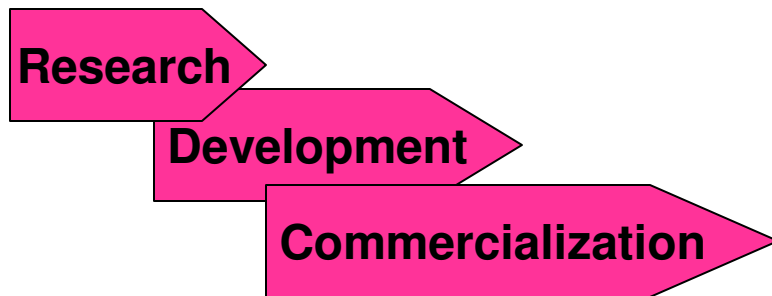
## Change Score 1999-2009

Rank	Country	Change Score (1999-2009)
1	China	19.5
2	Singapore	19.0
3	Lithuania	14.8
4	Estonia	18.1
5	Denmark	17.4
6	Luxembourg	16.9
7	Slovenia	16.7
8	Russia	15.2
9	Cyprus	14.7
10	Japan	14.4
11	Hungary	14.3
12	Slovakia	14.1
13	Czech Republic	13.8
14	India	13.6
15	Latvia	13.4
16	Austria	13.2
17	S. Korea	13.2
18	Ireland	12.9
19	EU-10**	12.8
20	Spain	10.8
21	Sweden	10.7
22	France	10.6
23	Portugal	10.1
24	Malta	9.9
25	Belgium	9.5
26	EU-25**	9.4
27	Poland	9.4
28	UK	9.0
29	EU-15	8.5
30	Mexico	8.0
31	Netherlands	7.9
32	Australia	7.4
33	Finland	7.3
34	Canada	6.3
35	Germany	6.3
36	Italy	5.2
37	NAFTA*	5.1
38	Greece	5.1
39	Brazil	3.7
40	U.S.	2.7
	<b>Average</b>	<b>11.2</b>

**Is US Losing the Innovation Edge?**  
*ITIF Analysis of 16 Indicators*

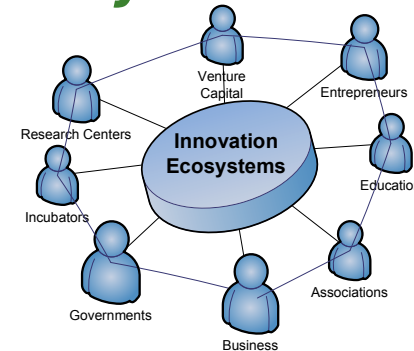
# Nature of Innovation is Changing

## *Linear Model*



- Single discipline
- Hierarchical governance
- Closed system
- Internal talent
- Controlled process
- IP hoarded
- Product centric
- Forecasting demand

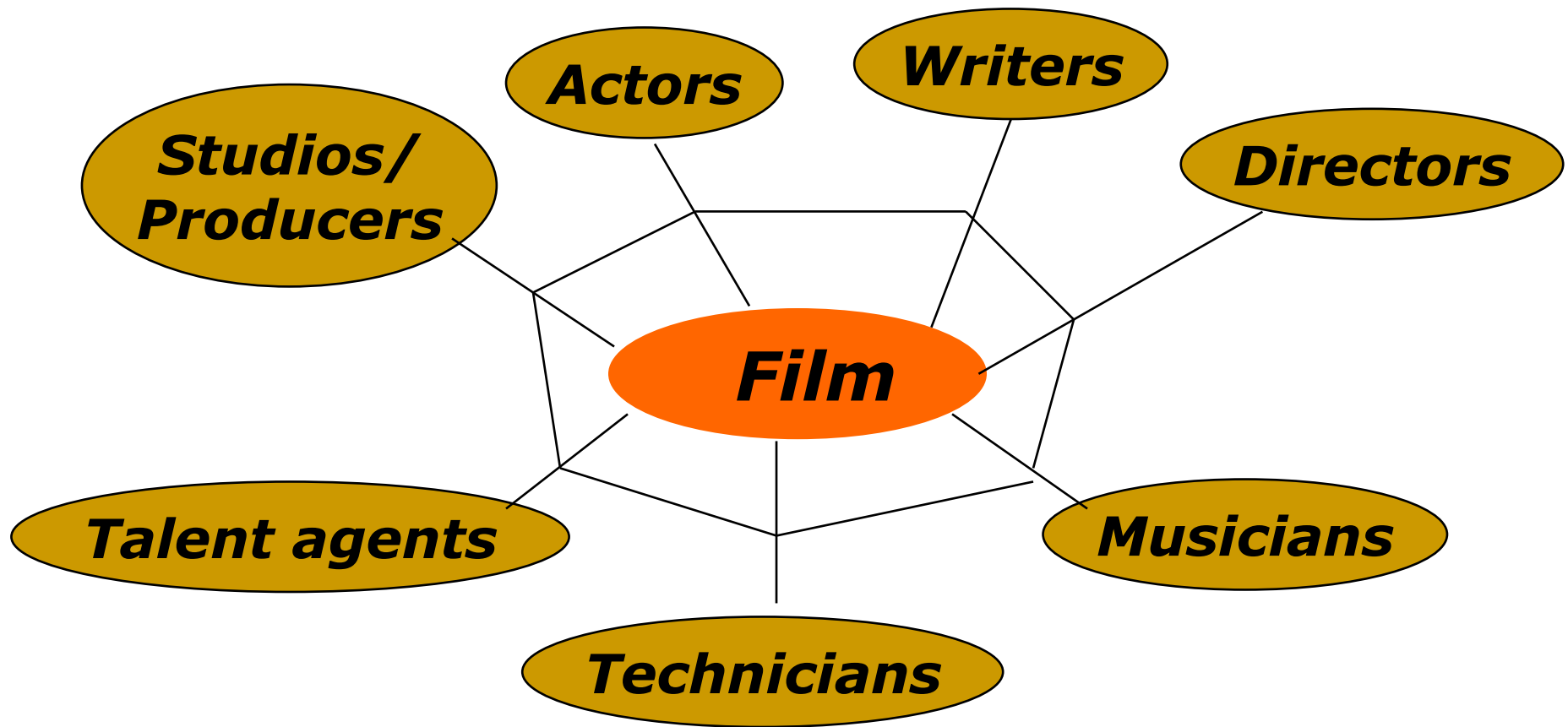
## *Ecosystem Model*



- Multidisciplinary
- Self organizing relationships
- Open innovation
- Access talent everywhere
- IP commons
- Customer centric
- Sense and respond

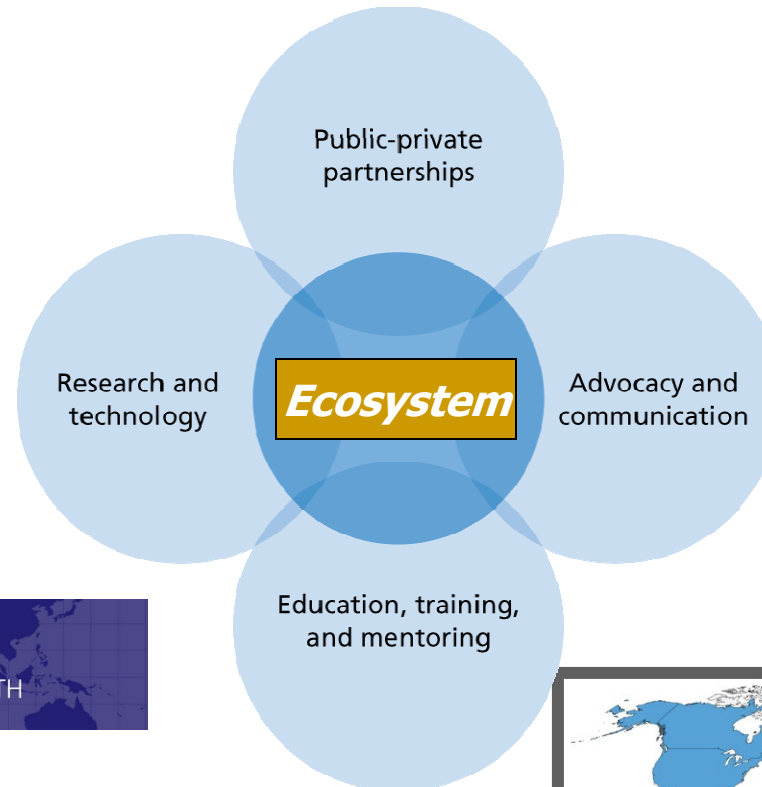
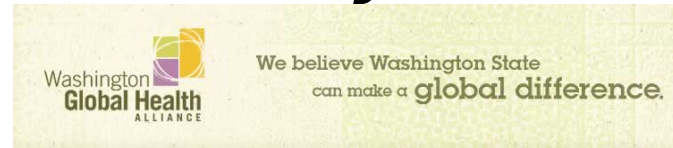
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# Best-known Innovation Ecosystem: Hollywood





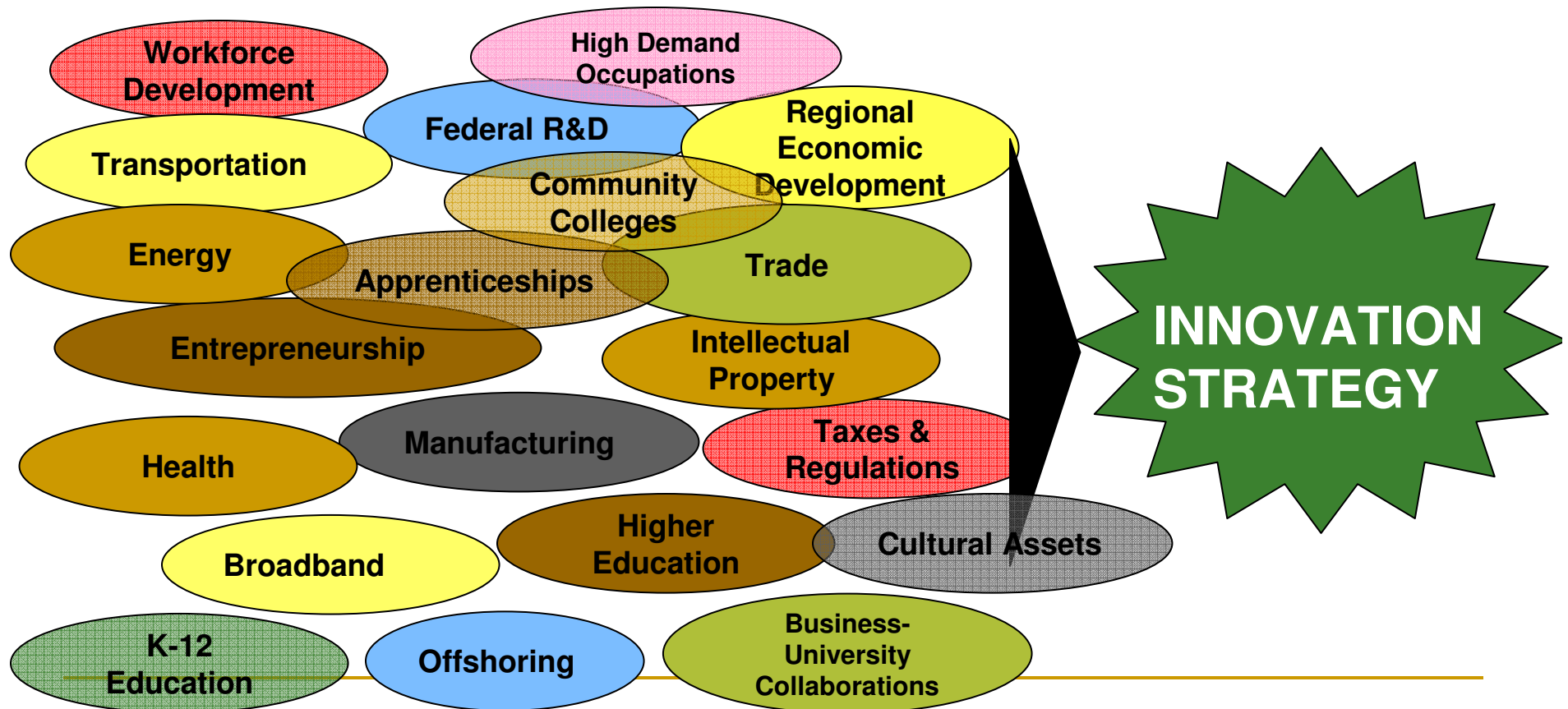
# Global Health Ecosystem



# The Innovation Ecosystem Shifts the Debate

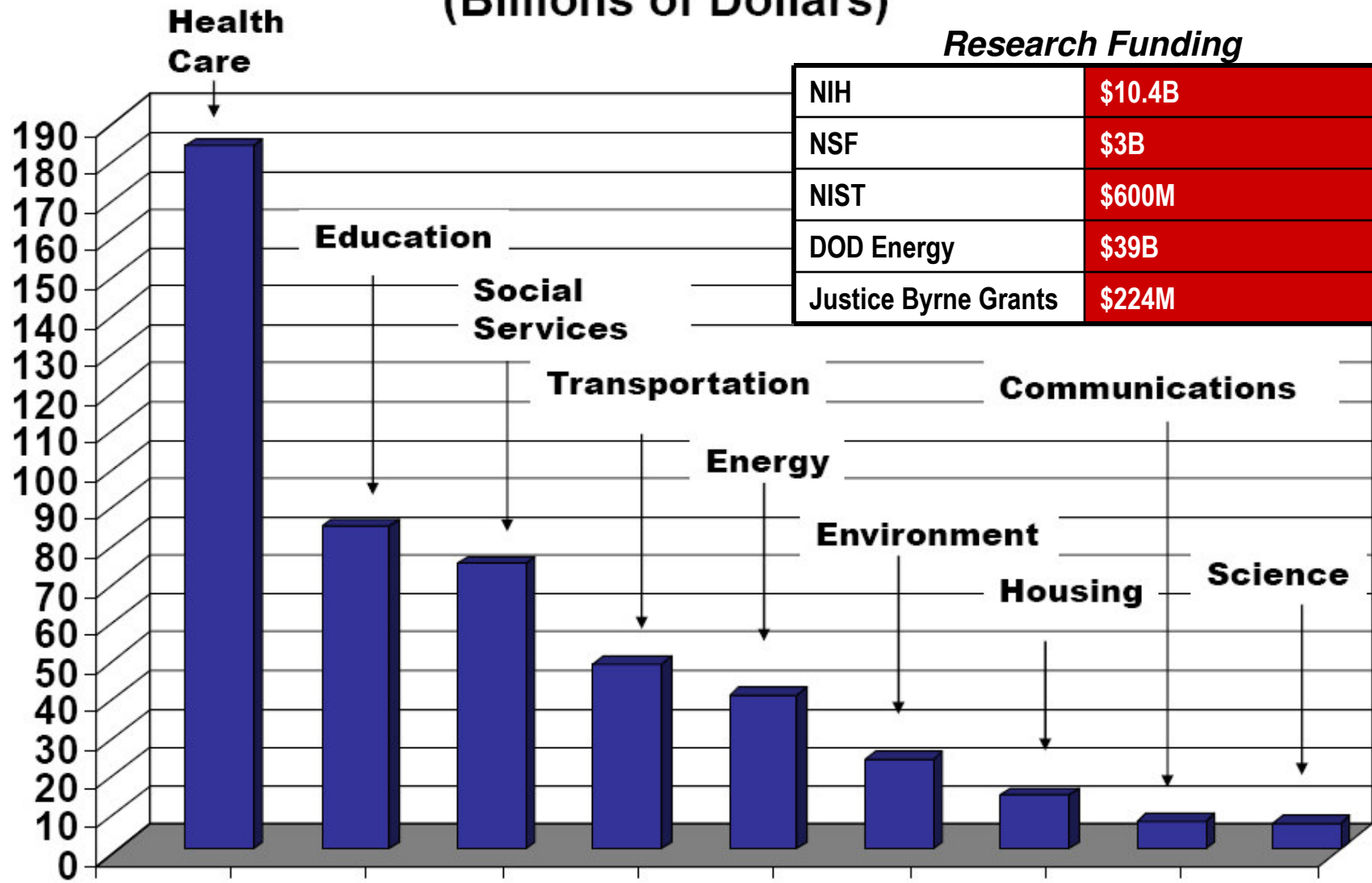
**Policymaking Tends to Focus on Discrete Issues With Narrow Constituencies**

**Alternative is Single Innovation Policy with a Broad Constituency**

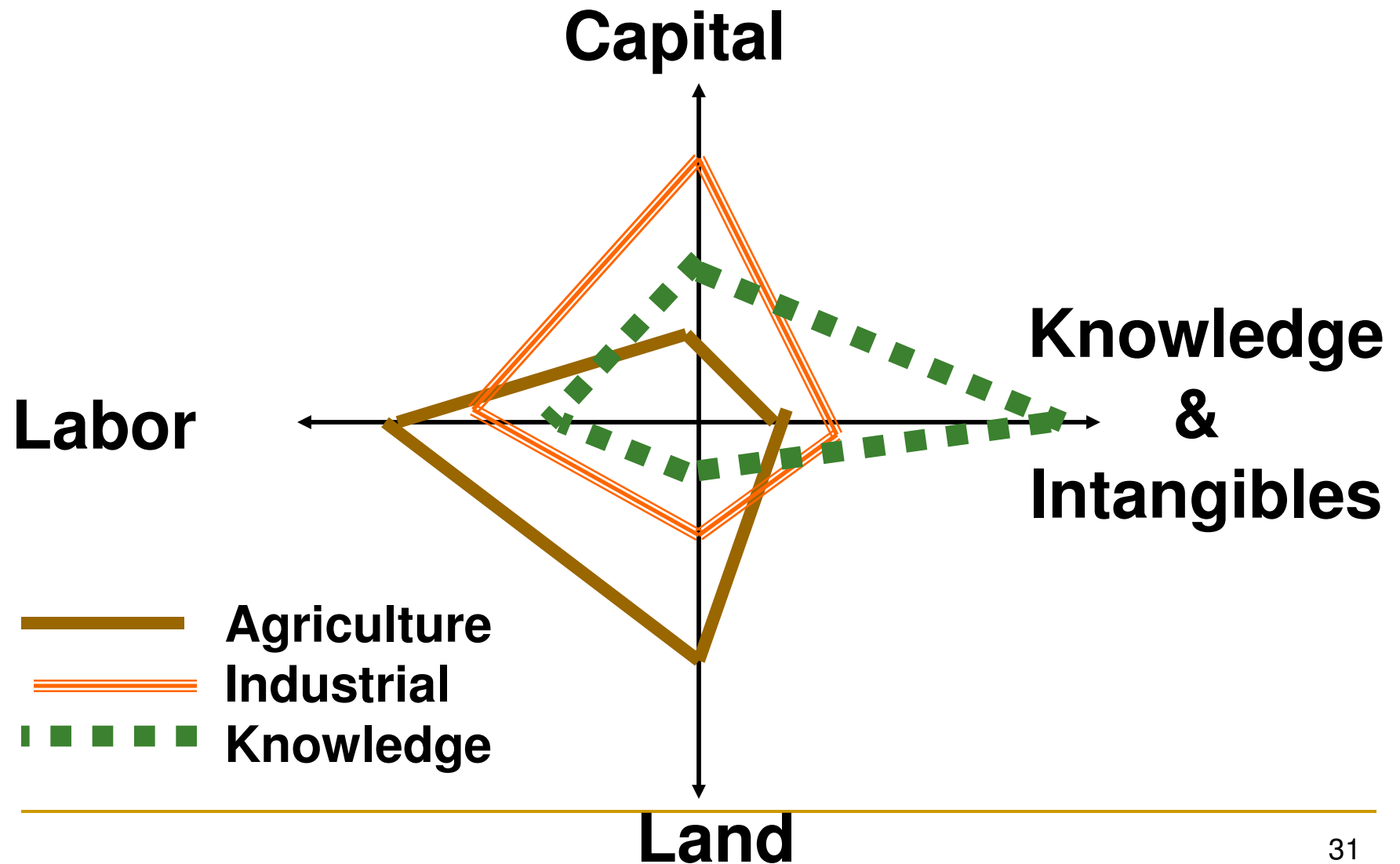




# General Categories of Stimulus Spending (Billions of Dollars)



# The Innovation Economy



# WEDC Working Groups

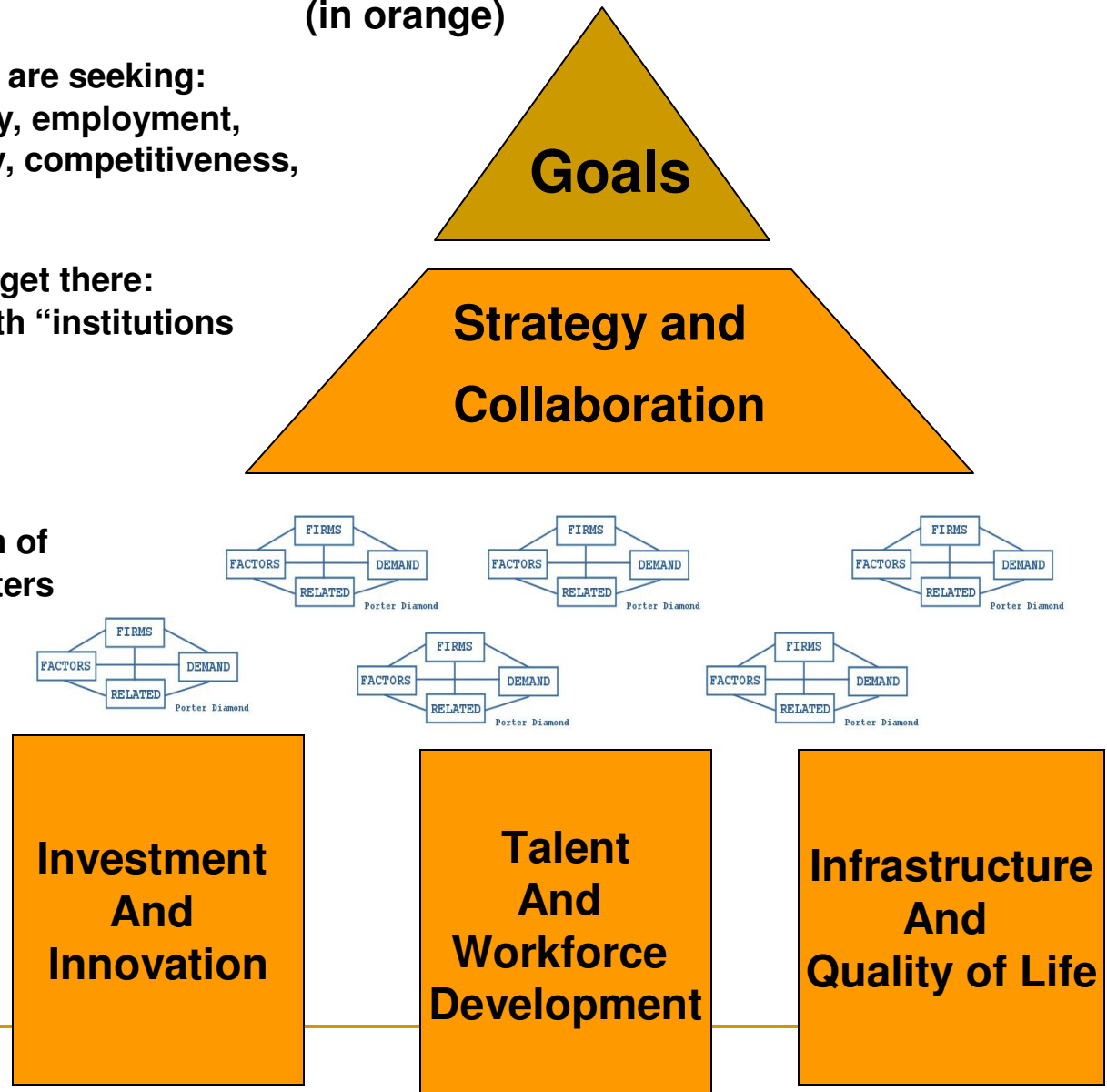
(in orange)

**GOALS:** The outcomes we are seeking:  
economic growth, productivity, employment,  
higher incomes, sustainability, competitiveness,

**STRATEGY:** How we will get there:  
aligning and coordinating with “institutions  
for collaboration”

**DRIVERS:** Enabling growth of  
industry and geographic clusters

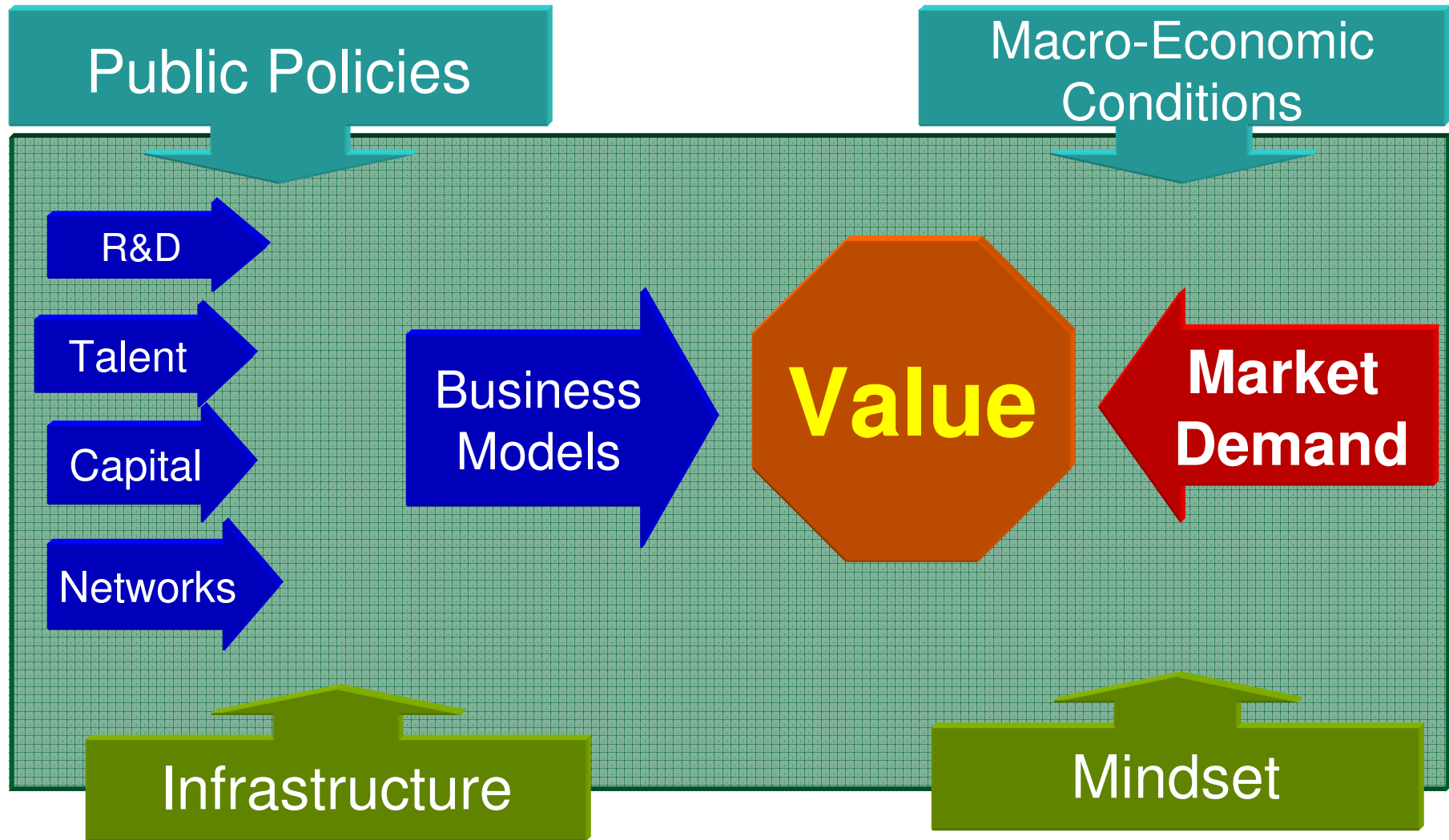
**FOUNDATIONS:** The  
pillars of innovation and  
21<sup>st</sup> Century  
competitiveness and  
economic development





# Innovation Ecosystem

Major Subsystems and Linkages



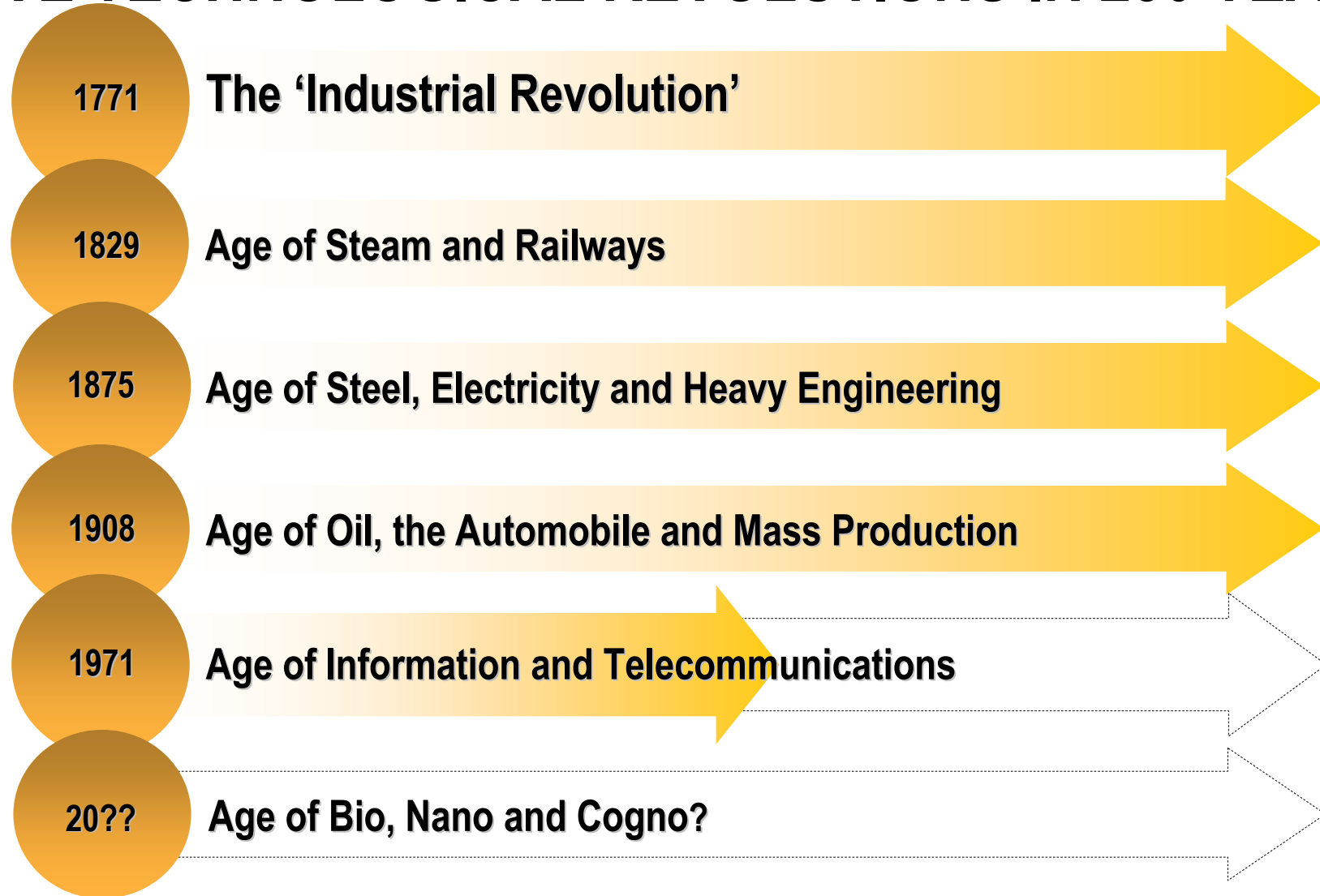
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**It is not the strongest of the species that survive,  
nor the most intelligent,  
but the ones most responsive to change.**

— Charles Darwin

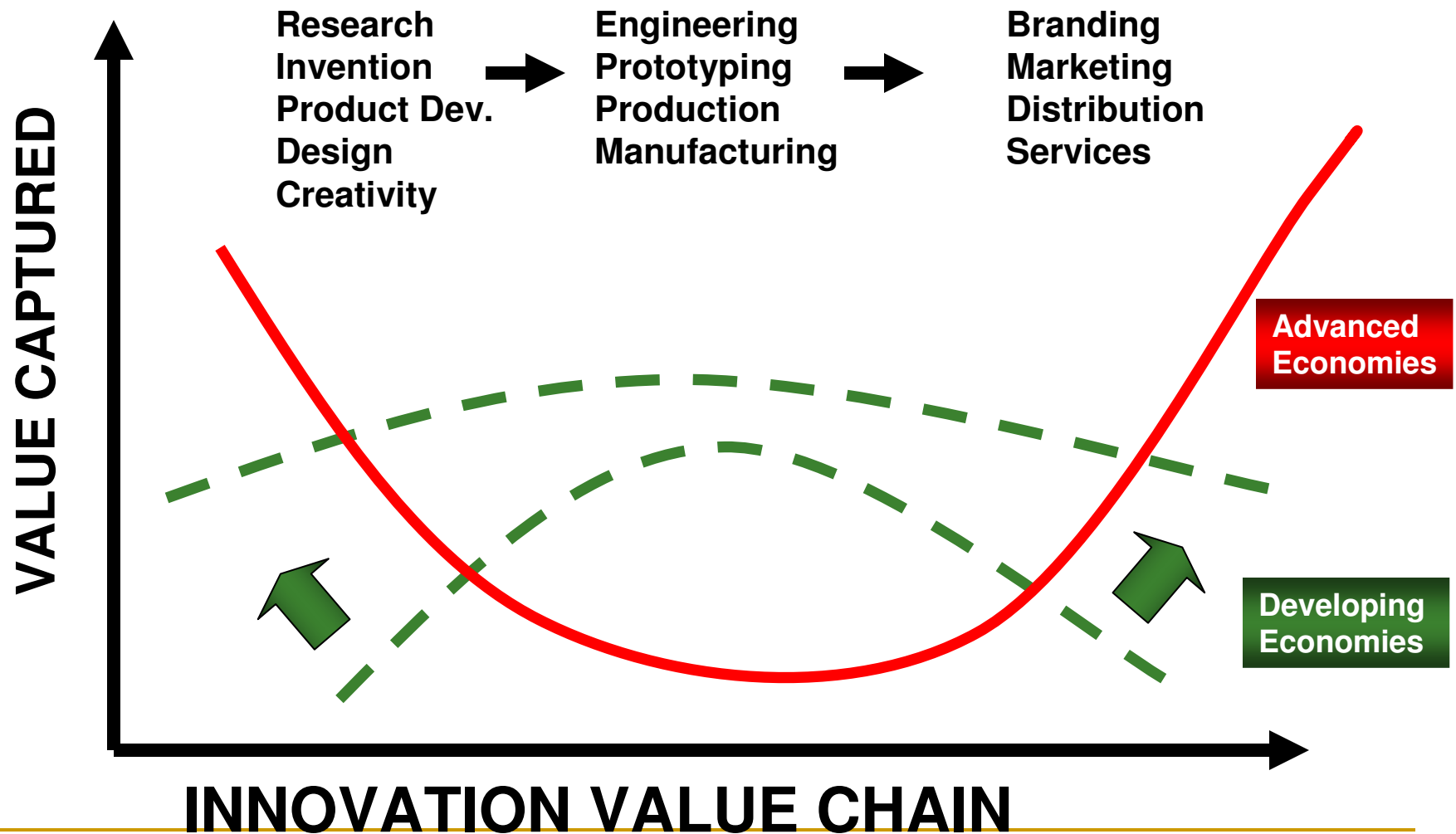
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# FIVE TECHNOLOGICAL REVOLUTIONS IN 230 YEARS



*Source: Perez*

# Disintermediation of Value Chain



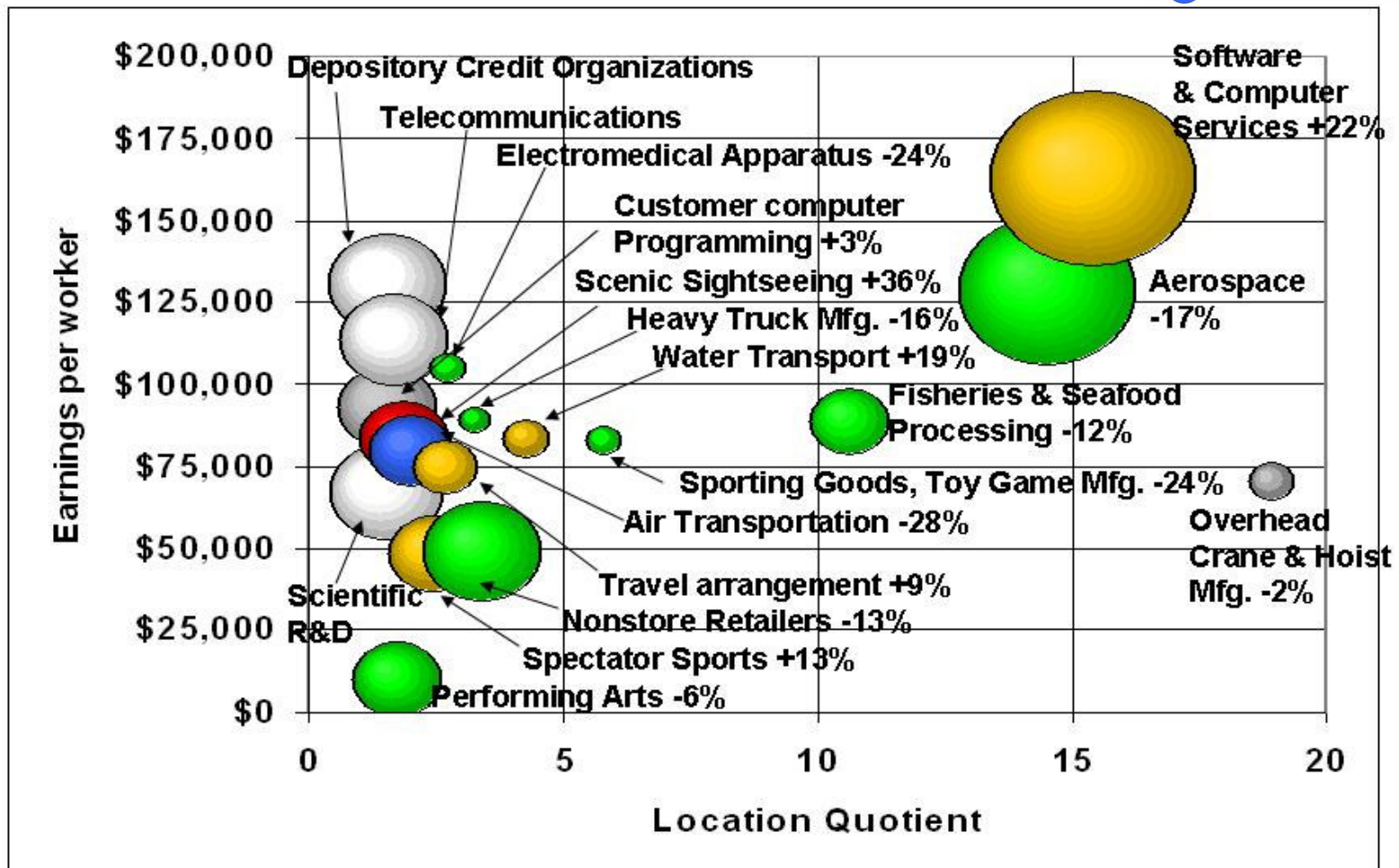
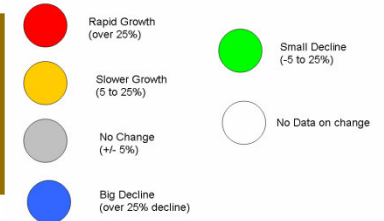
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# Multi-Sector Composition of WEDC

- **Chair, Bruce Kendall**, EDB for Tacoma-Pierce County
  - **Vice Chair, Steven Van Ausdle**, Walla Walla Community College
  - **Constance Bacon**, Port of Tacoma
  - **Rep. Norma Smith**, Ranking Member, House Community and Economic Development and Trade
  - **Rick Bender**, AFL-CIO
  - **Tony Bonanzino**, (former) Hollister-Stier Laboratories
  - **Jack Breeze**, Washington Advisory Group
  - **John Gardner**, Washington State University
  - **Sen. Jim Kastama**, Chair, Senate Economic Development, Trade and Innovation
  - **Rep. Phyllis Gutierrez Kenney**, Chair, House Community and Economic Development and Trade
  - **Roger Knutzen**, Knutzen Farms
  - **Karen Lee**, Commissioner of Employment Security
  - **Eleni Papadakis**, Director, Workforce Training and Education Coordinating Board
  - **H. Stewart Parker**, (former) Targeted Genetics Corporation
  - **Michael Sotelo**, Approach Management Services
  - **Ted Sprague**, Cowlitz Economic Development Council
  - **Sen Joseph Zarelli**, Ranking Member, Senate Economic Development, Trade and Innovation
  - **Rogers Weed**, Director, Community, Trade & Economic Development
  - **Executive Director**, Egils Milbergs
-

# Seattle –King County

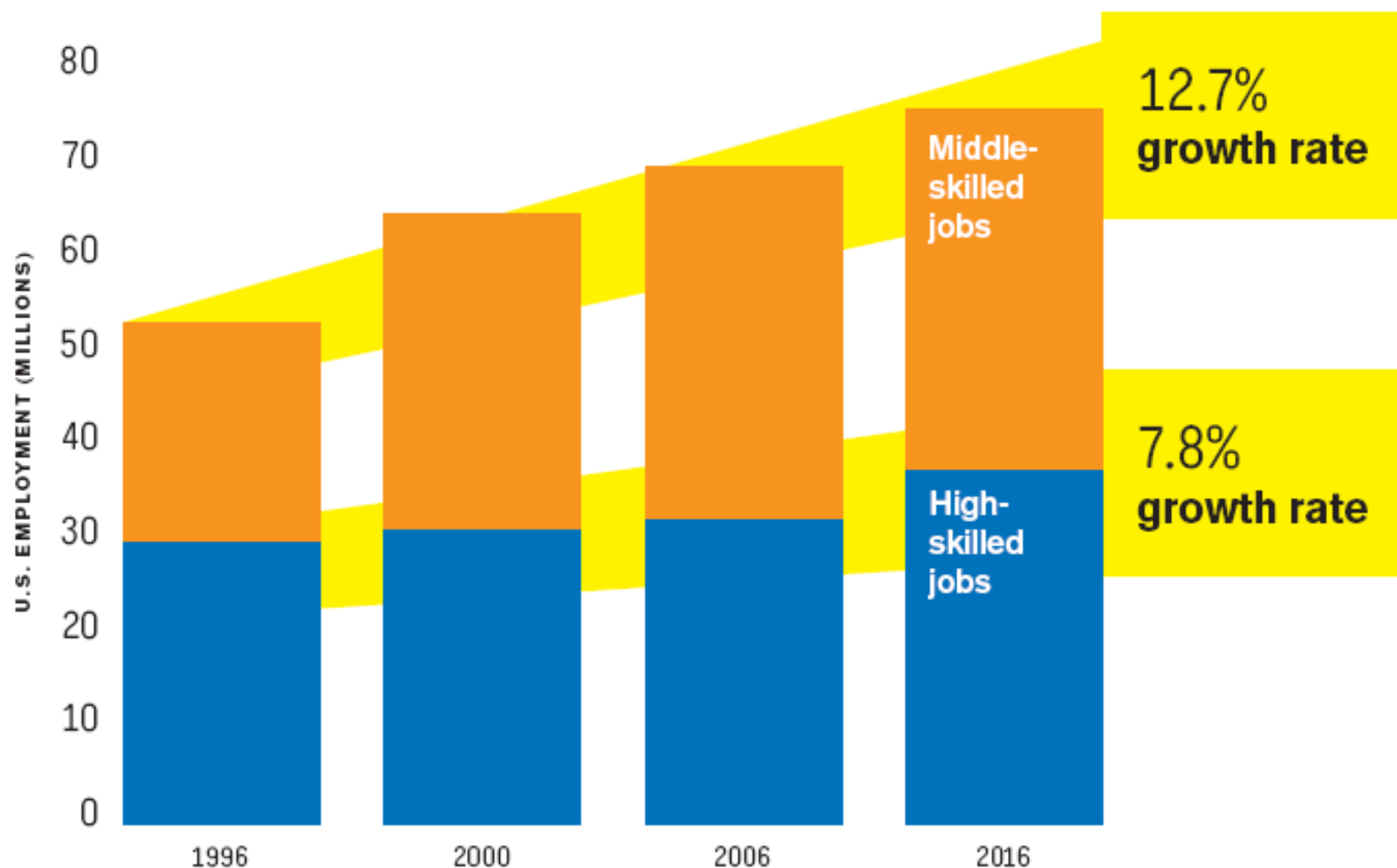
Color Scheme for Bubble Charts



Source: Sommers,Beyers,Wenzl,Industry Cluster Analysis, 2008



# Faster Growth in Middle-Skilled Jobs



Source: BLS, Council on Competitiveness

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# Critical Relationships



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# Economic Development Commission

(why we exist)

- *Develop a comprehensive economic development strategic plan to guide the operation of effective economic development programs, including workforce training, infrastructure development, small business assistance, technology transfer and export assistance.*
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# Innovation Ecosystems Evolve

